

REMARKS

Claims 1-46 are pending in the application. Claims 1-46 stand rejected.

Applicant respectfully requests reconsideration in view of the foregoing amendments and the remarks hereinbelow.

I. Rejections under 35 U.S.C. 112, first paragraph.

Claims 1, 21, and 34 recite a "non-directional signal" to select a portion of the original image. As is described in the specification, a user input generates a signal in response to a user input action. A controller determines what response a system will have to the signal. In the case of claims 1, 21, and 34, the signal is "non-directional" - it does not indicate a direction. A signal either contains certain information or it does not. The "non-directional" signal of claim 1 does not contain directional information. This has two central consequences: the user input control does not have to be one that is adapted to receive a user input action that designates a direction and further does not have to be adapted to generate a signal that has such information encoded therein. A further consequence of this is that a user of the system does not need to suggest a direction of movement when making an input - which greatly simplifies the challenge faced by a user when taking user input actions. It will be appreciated that such a user input action is much easier to execute than making a directional input particularly in a hand held device that is to be actuated while the user is in motion.

The Examiner correctly points out that the response of the system to the non-directional input signal is to select between available portions, as noted in the Office Action includes the possibility that different portions will be arranged along a vector or other pattern that is suggestive of a direction. However, as the response of the system is not a function of a directional component in the signal, it is recognized that a system could respond to such a non-directional signal in a manner that suggests that a directional input has been applied, as is suggested in the Office Action. However, this would not make the signal itself "directional". Accordingly, it is respectfully submitted that one of ordinary skill in the art will be capable of making and using a system with such a "non-directional" signal coming, for example, from a simple and well-known button switch or jog dial switch.

The Office Action later appears to indicate that the claims have been examined under 35 U.S.C. 103 as if the non-directional signal is one of a "predetermined direction". However, this interpretation is inconsistent with what is claimed. A "predetermined direction" still is a directional signal, which is not what is claimed. The non-directional signal simply does not consist of any directional component - predetermined or otherwise. It can be as simple as an On/Off signal which is not possible for any directional signal.

Claims 1, 21, and 34:

Claims 1, 21, and 34 stand separately rejected under 35 U.S.C 112, second paragraph. The Office Action appears to use the same rationale offered with respect to the rejection under 35 U.S.C. 112, first paragraph. For the reasons stated above, it is respectfully submitted that, such a non-directional signal can be generated by any user input that generates an output signal that does not indicate a direction. As is discussed above, the reaction of the system to this signal does not contradict this.

Claims 19 and 20 stand rejected under 35 U.S.C. 112, second paragraph. Claims 19 and 20 have been amended and, in their amended forms are believed to be in a condition for allowance.

II. Rejections Under 35 U.S.C. 103:

1. Claims 1-4, 7-18, 34-36 and 44-46 Are Allowable In that The Cited Combination Requires More Input to Achieve the Claimed Output.

Claims 1-4, 7-18, 34-36 and 44-46 stand rejected on the following grounds:

Moghadam et al. teaches the limitations of claims 1-4, 7-18, 34-36 and 44-46, with the exception of teaching the designated portion having a magnification. However, Anderson teaches selecting an image from a grid of images on a digital camera and maximizing the selected image on the display.

In regards to claim 1, Moghadam teaches a camera (digital or photographic) that includes an image receiver for capturing an image of an object. As shown in FIG. 4, the digital camera is comprised of an external LCD (42) (said display). Furthermore, the digital camera can have an electronic viewfinder (76) as shown in FIG. 6. The internal LCD panel (18) generates a grid-like pattern (30) (i.e. tile pattern), which defines individual tile areas (32), one or more of which may be designated as an active area (said determined a set of portions) [col. 3, lines 9-31]. As shown in FIG. 2(b), the tile pattern (30) partitions the image of source

(28) where at least one portion is not-central, i.e. tile (34) (said non-central). Each tile area (32) is capable of being individually highlighted for consideration, such as the highlighted area (34) [col. 3, lines 24-27]. The digital camera has a thumbwheel switch (38) [FIGS. 1, 3] which functions both as a tile pattern selection switch (38a) for selecting a particular tile pattern (30) and as a tile area designation switch (38b) for cycling through the tile areas (32) and highlighting one tile area after another (said non-directional signal) [col. 3, lines 31-44].

The Applicants respectfully traverse this portion of the rejection on grounds that lines 31-44, of Moghadam et al., are part of a larger portion of Moghadam et al. which states as follows:

As shown together in FIGS. 1 and 3, a top control panel 35 of the camera 10 includes a multi-functional mode selector switch 36 for selecting among several camera operation modes, including an active image area designation mode. The mode switch 36 is also used to select the functionality of a thumbwheel switch 38. The thumbwheel switch 38 accordingly functions both as a tile pattern selection switch (38a) for selecting a particular tile pattern 30 and as a tile area designation switch (38b) for cycling through the tile areas 32 and highlighting one tile area after the other. A "hot spot" selector switch 40 is used to designate a particular highlighted tile area 34 as an active area ("hot spot").

The action of enabling the "hot spot" switch 40 causes some further change in the highlighted tile area 34, such as the overall graying of the area such that a darkened underlying image is seen through a grey tint. An external LCD panel 42 displays the mode selected by the mode selector switch 36. The camera 10 also includes a shutter release 44 for initiating image capture and an output memory 48 for storing the captured image. The memory 48 is shown in FIG. 1 as a removable memory and accordingly functions as a memory location that is accessible to apparatus, e.g., a computer, external to the camera 10. Subsequent to designation of one or more individual tile areas 32 as active areas of the image, the locations of these active areas are also stored in the memory 48. Such locations may be positional coordinates, X-Y addresses, or the like.

From this, it is clear that the section of Moghadam et al. relied upon by the Office Action requires a user to make three different input actions in order to select an active area:

1. Choose a tile pattern.
2. Cycling to a selected one or more of the tiles in the tile pattern;
3. Designating each selected area as a Hotspot by pressing switch 40.

It will be appreciated that each of these user input actions must either generate a separate signal or a composite signal incorporating differentiable information representing the separate input actions. As claimed in claim 1, a user can make a non-directional input in response to which a controller can designate a

portion of the image which can cause the designated portion of the image to be presented with greater magnification and to determine an area of the image as being an area of importance based upon the currently designated portion. As is later discussed, in other embodiments, Moghadam et al. provides embodiments wherein only a manual active area selection (not requiring multiple tile patterns in the memory 56) is provided, or another providing a choice of tile patterns as stored in the memory 56. In the first alternative, the step of selecting a tile pattern can be avoided. in the second, the steps of individually selecting portions within a tile pattern can be avoided. However, at least two user input actions and, accordingly, two control signals are required to achieve this effect - one control signal designating a portion and another selecting it as a hot spot which is done by pressing the "hot spot" selector 40.

The "hot spot" (40) causes further change in the highlighted tile (34), such as the overall graying of the area such that a darkened underlying image is seen through a grey tint (said display up portion of evaluation image) [col. 3, lines 46-48]. The choosing of a specific tile (e.g. tile '34') indicates an importance to the user, otherwise the user would not have chosen the tile.

Moghadam et al. provides a camera that allows a user to designate hot spots for use by a computer. The hot spots define areas in an image that a computer program will later use "for enabling one or more specific actions to be assigned to the active areas of the recorded image when the image is accessed by the computer." (Moghadam et al. Abstract) The word importance is not found in Moghadam et al. thus there is no explicit disclosure of an area of importance. Further, since the range of "specific actions" of Moghadam et al. are not limited in any way to actions that are to be performed at an area of importance. It is therefore equally likely that the hot spot may not be the area of importance, but rather, associated with an area of the image wherein specific actions, such as presenting text, may be accomplished without obstructing the areas of importance in the image. They may also designate areas for cropping out of the image so that only areas of importance remain. Thus, it does not follow that a designation of an area as a hot spot means that the area is an area of importance in an image or is meant as such.

Anderson teaches a digital camera that includes a viewfinder for displaying a plurality of the image cells.

For clarification, Anderson teaches a digital camera that can simultaneously present a plurality of different images referred to therein as "image cells" on the same time in a selection screen.

The digital camera also includes [a] navigation control button for positioning a high light area around one of the plurality of image cells [abstract]. As shown in FIG. 4, the user may navigate through a series of displayed cells (420) and select a cell, i.e. cell for 20 that is encircled with a high light area (43) [col. 5, lines 5-10]. The user can use the "view" soft key function (410) where the highlighted cell becomes a full-sized image that is displayed on the viewfinder (402) said it magnification input) [col. 5, lines 33-37].

Therefore an obvious to one of ordinary skill in the art to modify the invention of Moghadam et al. to include the "view" magnification of Anderson in order for the user of Moghadam et al. to see in greater detail their selection (i.e. highlighted tile) since the extra display of Moghadam et al. would be too small for the user to see the details of the even smaller selected tile.

It will be appreciated that even if such a combination is made, this combination does not read upon what is claimed in that it now requires that a user make a further user input action - pressing a view button. Thus, at a minimum the combination provided by the Office Action requires at least three user input actions:

1. identifying a hot spot area;
2. selecting the hot spot area;
3. pressing a view button to cause the hot spot area to be presented.

It will be appreciated that each of these separate actions will generate a separate user input signal and that all of them must be completed before an image portion will be presented that is enlarged. As is presently claimed in claim 1, the controller is adapted, inter alia, to successively designate a different one of a set of portions of the original image in response to each non-directional signal and adapted to cause the display to present a portion evaluation image showing the currently designated portion of the original image and to determine an area of importance in the original image based upon the currently designated portion. However, it will be appreciated that the combination cited in the Office Action would not present a different one of a set of portions in response to each non-directional signal but instead would require three such signals.

In a similar way, this combination does not teach or suggest what is claimed in claim 14, including, but not limited to, a user input system adapted to generate an advance signal that indicates only that a user input action has been taken and a save signal; and a controller adapted to detect the advance signal and,

in response thereto, to cause the display to present a sequence of portion evaluation images each representing the image content of one of a set of different portions of the original image with the predetermined set of portions including at least one portion that is non-central with respect to the original image; wherein the controller determines an area of importance in the original image based upon the portion of the original image presented when the controller detects the save signal.

In addition, for the same reasons, this combination does not teach or suggest what is disclosed in claim 34, including, but not limited to, detecting a non-directional user input action during presentation of the evaluation image, designating one of the set of portions in response to each detected non-directional user input action and presenting a portion evaluation image that corresponds to the designated portion with the portion evaluation image showing the currently designated portion having a magnification that is greater than the magnification that the designated portion has when the currently designated portion is presented as a part of the original image.

Finally, for the same reasons, this combination does not teach or suggest what is disclosed in claim 43, including, but not limited to, detecting an advance user input action that does not include a directional input relative to the displayed evaluation image; selecting a sequence of different portions from a set of different portions of the original image in response to the advance user input action and presenting, for each selected portion, a portion evaluation image that indicates the image information in the original image that is contained within the currently designated portion; wherein at least one of the predetermined set of portions of the original image is non-central with respect to the original image and wherein each portion evaluation image shows the currently designated portion having a magnification, that is greater than the magnification that the currently designated portion has when the currently designated portion is presented as a part of the original image.

2. The Cited Combination Does Not Describe what is Claimed.

Further, the Office Action calls upon the combination of Moghadam et al. and Anderson to do something that is not described in either reference - presenting a portion evaluation image wherein each wherein each portion evaluation image shows the currently designated portion having a magnification,

that is greater than the magnification that the currently designated portion has when the currently designated portion is presented as a part of the original image.

As neither reference appears to suggest the desirability of doing this, and neither appears to offer any supporting disclosure as to how this might be done, it is not clear that the combination is capable of achieving what is claimed.

3. The Rejection Under 35 U.S.C. 103 Appears to be Premised Upon an Erroneous Interpretation of the term "non-directional signal".

Again, as noted above, the Office Action at page 4 appears to suggest that the term "non-directional signal" is interpreted as being of a "predetermined direction." For the reasons noted above, the applicants respectfully disagree with this interpretation. The signal itself is "non-directional" as claimed. The actions taken by the processor in response to the signal are not dispositive of this. It is not explicitly indicated in Moghadam et al. whether a "non-directional" input signal is generated by thumbwheel 38. Nor does it inherently follow that thumbwheel 38 of Moghadam et al. generates such a "non-directional" input.

Accordingly, at least for these reasons, claims 1-4, 7-18, 34-36 and 44-46 and all claims that depend therefrom are believed to be in a condition for allowance.

II. Claims 21 –25, 28 – 30, 33 and 39:

Claims 21-25, 28-30, 33 and 39 stand rejected under 35 U.S.C. 103 in view of the above cited combination of Moghadam et al. and Anderson and, further in view of Berkner et al. Berkner et al. however, is not cited for any reason that would address the defects in the above cited combination of Moghadam et al. or Anderson and, these claims therefore are believed to be allowable generally for the reasons stated above with respect to Moghadam et al. and Anderson.

Further, it will be appreciated that the cited portions of Berkner et al. (col. 16, lines 59-67) are part of a larger portion of Berkner et al. found at (col. 16, lines 18-67) which states as follows:

FIG. 22 is a flow diagram of one embodiment of a process for creating a reduced size image based on a combination of global and local scale selection. In process block **2201**, image data, application specific design choices, and user preferences for output display are received. In process block **2102**, data describing the importance of wavelet coefficients in an L-LEVEL wavelet decomposition is computed/extracted. The data should be level and

cell dependent and could be the energy or entropy of wavelet coefficients at given levels of resolution. In process block 2203, display scale L_{DISPLAY} is determined. If $L_{\text{DISPLAY}} \in [L_{\text{MIN}}, L_{\text{MAX}}]$ in decision diamond 2204, then process block 2205 performs local scale selection on the image such that selected LL components have display level $L \in [0, L(\text{MAX})]$ and fit into display pixel size or fixed size and shape. Otherwise, in process block 2207, the LL component at level L_{DISPLAY} of wavelet decomposition is displayed (i.e., global scale decomposition).

As an extension the maximization could be computed over a pre-described shape, but variable size or flexible shape of fixed size or flexible shapes of variable size.

Below is a mathematical formulation of the above:

A partition P of a set X is a set of subsets of X such that:

and $p_1 \cap p_2 = 0$ for $p_1 \neq p_2$ and every pair of sets $p_1, p_2 \in P$.

$$I_m^{\text{HL}} = \{i, j\} | i=0, \dots, M2^{-m}-1, j=N2^{-m}, \dots, N2^{-2m}-1\}, \quad (15)$$

$$I_m^{\text{LH}} = \{i, j\} | i=M2^{-m}, \dots, M2^{-2m}-1, j=0, \dots, N2^{-2m}-1\}, \quad (16)$$

$$I_m^{\text{HH}} = \{i, j\} | i=M2^{-m}, \dots, M2^{-2m}-1, j=N2^{-m}, \dots, N2^{-2m}-1\} \quad (17)$$

Let $P_m^{\text{HL}}, P_m^{\text{LH}}$ and P_m^{HH} be partitions of $I_m^{\text{HL}}, I_m^{\text{LH}}$ and I_m^{HH} , respectively.

A reduced size image with recognizable content is given by an output border and output image content. The border is given by a shape (e.g., rectangle) and a size (e.g., 68×80 pixels). In order to fill the border with image content, a resolution of the image and an anchor point position to locate the border is determined (e.g., coordinate (10, 20) in resolution image X_m). An anchor point for a rectangle or square could be the upper left corner, while the anchor point for a circle may be the center.

Thus, what is admittedly disclosed in this section is a method for generating a reduced sized version of an entire image – not a portion thereof, using a combination of global and local scale reduction. The anchor point is used for creating a space in which image information representing the entire image is to be written. The mere use of anchor points as a border defining mechanism in a compression system might show one of ordinary skill in the art how to package an entire image, but it does not suggest a method for defining an area of importance in an image based upon a user input action as claimed nor does it teach or suggest the use of such an approach for defining an area of importance in an image.

The Office Action suggests that Berkner et al. discloses that “from an entire image, an image segment can be selected.” What appears to be disclosed is a two-part process wherein segments of an image are locally treated in different ways so that they can be handled differently during global downsampling of an entire image. This appears to be discussed at col. 14, lines 13-34 as follows:

Partition of Image Domain into Segments:

In one embodiment, the image is divided into two dimensional segments (e.g., tiles in J2K) and then global scale selection is performed as described below.

In one embodiment, instead of selecting a display scale and then choosing the LL component at that scale as the image representation, a part of the image at a specific scale (e.g., text at fine scale, background at coarse scale) is selected. In order to perform such a local scale selection, the image is partitioned into segments. In one embodiment, the segments are individual coefficients. In an alternative embodiment, the segments are cover groups of coefficients, shaped like, for example, squares, rectangles, etc.

After a partition (given, e.g., by the segment size and shape size) is chosen, the same approach on global scale selection as described above is applied to each of the segments S of the partition. As a result, each $S(i)$ has an assigned display scale $L_{\text{display}}(i)$. In terms of pattern recognition, the result is an $(L_{\text{max}}-L_{\text{min}})$ -class labeling of the segment.

Thus, in Berkner et al., as in the other references, it appears that the entire image is processed and is maintained in whole. Some areas are designated for different treatment than others (i.e. hot spotting) and such areas are treated differently during the downsampling. However, such areas are not treated in this manner because they are considered to be of importance and the selection of such areas appears to be based upon how such areas will react when downsampled.

For these reasons, and for the reasons stated above with respect to the combination of Moghadam et al. and Anderson, it is respectfully submitted that claim 21 and all claims that depend therefrom are believed to be in a condition for allowance as are claims 33 and 39.

It is respectfully submitted, therefore, that in view of the above amendments and remarks, that this application is now in condition for allowance, prompt notice of which is earnestly solicited.

Respectfully submitted,



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